



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,085	02/03/2006	Tengchen Sun	BGOL-03-114	2339
26875	7590	11/21/2006		EXAMINER
WOOD, HERRON & EVANS, LLP				NGUYEN, VINCENT Q
2700 CAREW TOWER				
441 VINE STREET			ART UNIT	PAPER NUMBER
CINCINNATI, OH 45202				2858

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

ND

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/595,085	SUN ET AL.
	Examiner	Art Unit
	Vincent Q. Nguyen	2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 21-40 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 21 and 23-40 is/are rejected.  
 7) Claim(s) 22 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1)  Notice of References Cited (PTO-892)  
 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3)  Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 5/10/06 3/31/06

4)  Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_.  
 5)  Notice of Informal Patent Application  
 6)  Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains legal phraseology "comprises" (e.g. line 2) "said" (lines8). Correction is required. See MPEP § 608.01(b).

### ***Objection***

3. Claims 23, 24, 27-29, 31-34 depend upon claim 1, which were previously canceled. Claims 23, 24, 27-29, 31-34 are required to amend to depend upon claim 21 or appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 35-37, 39, 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Schulz (5,880,538).

With respect to claims 35-37, 39, 40 Schulz discloses a method comprising the steps of (a) coupling test signals (8) to the plane capacitor (Formed by elements 2, 3); (b) receiving test signals (Through capacitors 5-7) from the plane capacitor modified in relation to said change in capacitance; (c) developing change signals corresponding to environmental change of the windshield; (d) transmitting the change signals to equipment working on the windshield whereby to affect said environmental change of the windshield (See the abstract); and (e) repeating steps (a) through (d) whereby to operate in closed-loop fashion (It is inherent that the steps disclosed in Schulz are repeated since it is the function of the windshield).

6. Claims 35-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Steinmann (3,826,979).

With respect to claims 35-37, 39, 40, Steinmann discloses a method comprising the steps of (a) coupling test signals (5) to the plane capacitor (Formed by elements 2, 4); (b) receiving test signals (Through electrode 4) from the plane capacitor modified in relation to said change in capacitance; (c) developing change signals corresponding to

Art Unit: 2858

environmental change of the windshield; (d) transmitting the change signals to equipment working on the windshield whereby to affect said environmental change of the windshield (Through elements 6-12); and (e) repeating steps (a) through (d) whereby to operate in closed-loop fashion (It is inherent that the steps disclosed in Schulz are repeated since it is the function of the windshield).

With respect to claim 38, Steinmann disclose low KHz (Col. 2 lines 19-21) that is "about" 100 KHz to about 100 KHz.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 21, 23-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz (5,880,538).

With respect to claims 21, 23-34, Schulz discloses a device for detecting environmental change of automobile windshield comprising a plane capacitor (formed by elements 2, 3) including two electrodes (2, 3) disposed on a common plane on an inner surface of said windshield, environmental change of said windshield effecting a change in capacitance of the plane capacitor (Typical to all of capacitive detector including the prior art of Schulz); and a sensor circuit (Circuit connect to switch 9) operatively coupled with the plane capacitor and adapted to couple test signals (8) to the plane capacitor and receive said test signals therefrom modified in relation to said

change in capacitance so as to develop change signals corresponding to environmental change of said windshield, such that equipment working on said windshield in response to the change signals operates in closed-loop fashion to affect said environmental change of said windshield.

The only difference between the claimed inventions is that the claim recites the electrodes having a total area of less than 100 cm<sup>2</sup> whereas Schulz is silent.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the electrodes having a total area of less than 100 cm<sup>2</sup> into the system of Schulz, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

#### ***Allowable Subject Matter***

9. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Contact Information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q. Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone

Art Unit: 2858

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vincent Q. Nguyen  
Primary Examiner  
Art Unit 2858

V. Nguyen  
November 16, 2006